Public Material Related to Proposal Six

I. PREFACE

A. Purpose and Content

USPS-RM2020-13-1 provides estimation programs, datasets, and econometric output for the Proposal Six elasticity analysis for automated letter and flat distribution operations. It also provides Excel files with source data for figures presented in the accompanying technical report, and a public version of the attributable cost impact table.

B. Corresponding Non-Public Document

USPS-RM2020-13-NP1 is the corresponding nonpublic folder, and provides documentation of upstream source data and processing to develop the public MODS dataset. There is no corresponding non-public version of the econometric analysis, but there is a nonpublic version of the impact table, which shows results for individual competitive products.

II. ORGANIZATION

The files provided in USPS-RM2020-13-1 are in two main groups. The "Workbooks" folder provides source data for charts provided in the technical report accompanying Proposal Six. The "Analysis" folder provides econometric code, results, and log files for the regression models described in the report. The table below lists the contents of the folders.

Table 1. Contents of USPS-RM2020-13-1 Workbooks

File Name	Description
FY07-19 MP Costs w-RPW_v.xlsx	Excel workbook with historical mail processing cost data, source for figures 1 and 2 in the Proposal Six technical report
Fig 3 Facilities.xlsx	Source data for report Figure 3
Fig 4 TPF.xlsx	Source data for report Figure 4
Fig 5 Scale.xlsx	Source data for report Figure 5
Fig 6 Throughput.xlsx	Source data for report Figure 6
Fig 7 Productivity.xlsx	Source data for report Figure 7
Figs 8-10 TPF_Hours.xlsx	Source data for report Figures 8-10
Figs 11-12 rolling_results.xlsx	Source data for report Figures 11-12
Proposal Six Impact Public.xlsx	Excel workbook with public version of attributable cost impacts (domestic competitive products combined)

Table 2. Contents of USPS-RM2020-13-1 Analysis

File Name	Description
analysis.do	Stata program ('do-file') implementing regression analysis for model versions without seasonal controls
analysis.txt	Output log file for analysis.do
analysis_seasonal.do	Stata program implementing regression analysis for model versions with seasonal controls
analysis_seasonal.txt	Output log file for analysis_seasonal.do
analysis_lag_seasonal_tests.do	Stata program implementing specification tests for inclusion of lag and seasonal variables
analysis_lag_seasonal_tests.txt	Output log file for analysis_lag_seasonal_tests.do
analysis_set.dta	Stata version of regression dataset
analysis_set.xlsx	Excel version of regression dataset

File Name	Description
master.do	Stata program that runs the three analysis do-files in order
results.xlsx	Excel workbook compiling estimated elasticities and associated standard errors from models implemented in analysis.do
results_seasonal.xlsx	Excel workbook compiling estimated elasticities and associated standard errors from models implemented in analysis_seasonal.do
results_lag_seasonal_tests.xlsx	Excel workbook compiling p-values for specification tests implemented in analysis_lag_seasonal_tests.do
rolling_results.dta	Stata dataset containing rolling regression results from analysis.do
rolling_results.xlsx	Excel version of dataset containing rolling regression results from analysis.do
rolling_results_seasonal.dta	Stata dataset containing rolling regression results from analysis_seasonal.do
rolling_results_seasonal.xlsx	Excel version of dataset containing rolling regression results from analysis_seasonal.do
summary_by_aggopgroups.dta	Stata dataset with summary statistics for MODS variables by operation group
summary_by_aggopgroups.xlsx	Excel version of dataset with summary statistics for MODS variables by operation group
rolling (folder)	Folder for working datasets produced by rolling regression analysis (see below)

III. PROGRAM DOCUMENTATION

Program: **analysis.do** – Stata program that estimates labor elasticities for the broad groups DBCS, AFSM, and FSS; but without seasonal controls. It estimates alternative regression models with and without lagged TPF terms, for multiple time periods (FY 2007-2019, 2015-2019, and 2016-2019), and for different levels of filtering outlier observations (no filtering, top and bottom 1%, top and bottom 5%, top and bottom 10%). It also estimates the model without lags (and with 5% productivity outlier filtering) for rolling sample windows of 48 and 60

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months, spanning FY 2007-2019. This program also creates a Stata dataset summarizing MODS data by operation group and month.

Input: **analysis_set.dta** – Stata dataset (by site ID, operation group, and month) with aggregated MODS data for FY 2007-2019

Output: **summary_by_aggopgroups.dta** – Stata dataset summarizing MODS data by broad group and month
summary_by_aggopgroups.xlsx – Excel workbook version of the corresponding Stata summary dataset, data source for report figures 3-10
results.xlsx – Excel workbook compiling the non-rolling elasticity estimates
rolling/*BG*run_simple*MN*.dta – Stata datasets containing the runtime elasticity rolling regression results for broad group *BG* = DBCS, AFSM, or FSS and for month window *MN* = 48 or 60. (Note: these intermediate files are overwritten by analysis_seasonal.do below.)
rolling/*BG*hrs_simple*MN*.dta – Stata datasets containing the hours elasticity rolling regression results for broad group *BG* = DBCS, AFSM, or FSS and for month window *MN* = 48 or 60. (Note: these intermediate files are overwritten by analysis_seasonal.do below.)
rolling_results.dta – Stata dataset compiling the rolling regression results
rolling_results.xlsx – Excel workbook version of the dataset compiling rolling regression results

Program: **analysis_seasonal.do** – Stata program that estimates labor elasticities for the broad groups DBCS, AFSM, and FSS *with* seasonal controls. Otherwise, it performs the same analyses as analysis.do. The rolling time period regressions are performed for the model with lags and seasonal controls (and 5% outlier filtering).

Input: **analysis_set.dta** – Stata dataset (by site ID, broad group, and month) with aggregated MODS data for FY 2007-2019

Output: **results_seasonal.xlsx** – Excel workbook compiling the non-rolling elasticity estimates
rolling/*BG*run_simple*MN*.dta – Stata datasets containing the runtime elasticity rolling regression results for broad group *BG* = DBCS, AFSM, or FSS and for month window *MN* = 48 or 60.
rolling/*BG*run_simple*MN*.dta – Stata datasets containing the hours elasticity rolling regression results for broad group

BG = DBCS, AFSM, or FSS and for month window *MN* = 48 or 60.
rolling_results_seasonal.dta – Stata dataset compiling rolling regression results for the models with lagged TPF and seasonal controls
rolling_results_seasonal.xlsx – Stata dataset compiling rolling regression results, source for report figures 11-12

Program: **analysis_lag_seasonal_tests.do** – Stata program that performs statistical tests on certain coefficients of the non-rolling regressions from analysis_seasonal.do above. It performs a joint test for the statistical significance of the lagged TPF terms. It also performs a joint test for the statistical significance of the month seasonal controls. Finally, it performs a joint test of the significance of both the lagged TPF terms and the seasonal month terms, together.

Input: **analysis_set.dta** – Stata dataset (by site ID, broad group, and month) with aggregated MODS data for FY 2007-2019

Output: **results_lag_seasonal_tests.xlsx** – Excel workbook compiling the test results

Program: **master.do** – Stata program that runs the preceding Stata programs in the correct order.